



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/809,566

03/25/2004

Yuji Okawa

UNIU79.022AUS

7968

20995

7590

03/28/2006

KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER

PHAM, THANHHA S

ART UNIT

PAPER NUMBER

2813

DATE MAILED: 03/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/809,566

Applicant(s)

OKAWA, YUJI

Examiner

Thanhha Pham

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 0117/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 2,4,5 and 9-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 6, 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>03/25/2004</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to Applicant's Preliminary Amendment dated 03/25/2004 and Applicant's Response to Restriction Requirement dated 01/17/2006.

Election/Restrictions

1. Applicant's election without traverse of claims 1, 3, 6 and 8 in the reply filed on 01/17/2006 is acknowledged.
2. Claims 2, 4-5, 7, 9-12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions/species. Election was made **without** traverse in the reply filed on 01/17/2006.
3. Preliminary Amendment dated 03/25/2004 includes new claims 13-17 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Original claim 1 drawn to a wafer back surface treating method in which a ground or polished surface of a semiconductor wafer activated in a grinding or polishing step with semiconductor circuits thereon is deactivated. Meanwhile, the new independent claim 13 drawn to a method for treating a back surface of a semiconductor device comprising (i) grinding or polishing the back surface of the wafer; (ii) treating the ground or polished back surface uniformly with a surface deactivation agent selected from the group consisting of an oxidizing agent, dry ozone, ozone water, and ultraviolet radiation, to oxidize the ground or polished surface; and (iii) adhering a dicing sheet to the oxidized surface of the wafer, wherein adhering strength between the back surface

Art Unit: 2813

and the dicing sheet is reduced as compared with adhering strength achieved without step (ii).

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 13-17 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Oath/Declaration

4. Oath/Declaration filed on 03/25/2004 has been considered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Jiang et al [US 6,812,064].**

Jiang et al (figs 2-6's, cols 1-9) discloses the claimed method of wafer back surface treating method in which a ground or polished surface of a semiconductor wafer

(wafer 86 after being ground or polished, fig 6A) activated in a grinding or polishing step (after being ground, the wafer 86 is activated because it is active to creating problem of contamination or stickiness – see col 2 lines 21-30) with semiconductor circuits (semiconductor die 80) formed thereon is deactivated wherein the deactivated treatment is implemented with blowing ozone to the ground or polished surface thereof (col 6 lines 65-67, col 7 lines 1-2, col 8 lines 35-67 & col 9 lines 1-28).

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jiang et al [US 6,812,064] in view of Bennett et al [US 5,851,664].

Jiang et al substantially discloses the claimed method except teaching a dicing sheet is adhered to the ground or polished surface of the wafer after the deactivation treatment. Jiang et al only teaches dicing the wafer after the deactivation treatment (see col 8 lines 51-52) by blowing ozone (col 9 line 1-28).

However, Bennett et al (col 3 lines 40-57) teaches adhering the dicing sheet to the ground or polished surface of the wafer is a known technique for dicing wafer.

Therefore, at the time of invention, it would have been obvious for those skilled in the art, in view of Bennett et al, to have the dicing sheet to be adhered to the ground or polish wafer as being claimed in the process of Jiang et al for dicing the wafer without problem of chipping or damaging.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanhha Pham whose telephone number is (571) 272-1696. The examiner can normally be reached on Monday and Thursday 9:00AM - 9:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke at the end, positioned above a solid horizontal line.

Thanhha Pham